11.0 RECREATION RESOURCES

This section identifies recreation resources in the project area and vicinity. Most of the potential impacts are associated with reservoir drawdown and refill and related forest closures. Impacts to Big Grizzly Creek and other resources are evaluated.

11.1 Environmental Setting/Affected Environment

This section describes existing conditions in the Lake Davis recreation area, and is followed by a description of recreation lakes in northern California that may serve as substitutes to Lake Davis during the time before, during, and after pike eradication efforts. Information is based on readily available information from the Plumas National Forest (PNF), California Department of Fish and Game (DFG), California Department of Water Resources (DWR) and California State University at Chico. Some of the information used is in preliminary form and is stated as such when referenced.

11.1.1 Project Area and Vicinity

The area affected by the Proposed Project/Proposed Action and alternatives includes the immediate area within the PNF and other recreation sites near Lake Davis that could be used during any forest closure associated with project implementation.

11.1.1.1 Overview of Lake Davis Recreation Area

Lake Davis is a major recreation destination on the PNF, and is located approximately five miles north of Portola, California (Figure 2-1, Vicinity Map). It was created as part of the State Water Project in 1967 for recreational opportunities with a maximum capacity of 84,370 acre-feet. Big Grizzly Creek, Freeman Creek, and Cow Creek are major tributaries that flow into the reservoir. The reservoir and its facilities are very popular with recreation visitors and local residents. People who visit the Lake Davis Recreation Area generally seek a quiet, uncrowded type of recreation experience. During the summer, the Lake Davis recreation area provides opportunities for: fishing, boating, camping, picnicking, mountain biking, and bird watching. No jet skis or water skiing is permitted on the reservoir. In the fall and winter, duck hunting is allowed on the north end of the reservoir (Dillingham, personal communication, 2006). During the winter there are opportunities for ice skating, ice fishing, snowmobiling, cross-country skiing, and snow play. Local snowmobile clubs hold an annual "Poker run" at the reservoir. In 2006, a dogsled race was held at the reservoir using Honker Bay as a parking/staging area.

Total annual visitation has been estimated as high as 260,000 visits (Schaber, personal communication, 2006; DFG 1997). These visits include individuals who are not necessarily visiting Lake Davis as their primary destination, and include individuals who may only pass by Lake Davis along major access routes such as Grizzly Creek Road. However, day use that is attributed solely to the Lake Davis recreation area is estimated to be lower (Table 11.1-1) at about 70,000 visits per year. Camping use for Lake Davis is reported in Table 11.1-2. Camping use averages slightly more than 24,000 visitors per year. Since it is unknown how much camping use overlaps with day use, a range of total use is reported. Total recreation use

at Lake Davis ranges between 70,000 and 92,400 visits per year.[1] To place this use estimate in a larger context, there were 1.2 million site visits (visits to specific sites) to the PNF as a whole in 2000. Another regional comparison is day and overnight use measured at Pacific Gas and Electric facilities at Buck's Lake. In 2002, use at Buck's Lake which is physically smaller than Lake Davis but has more than twice the overnight capacity, was approximately 90,000 visits.

Table 11.1-1. Estimated Annual Day Use Recreation Visits to Lake Davis Recreation Area

Type of Use	Use Levels
Day Use-West Side	20,300
Day Use-East Side	49,364
Total Visits	**69,664**

There is a high level of day use in the Lake Davis area, a high percentage of which originates from nearby communities (Table 11.1-1). An analysis of the 2005 National Visitor Use Monitoring (NVUM) project data showed that the average length of stay at the Lake Davis area was about ten hours, and about 45 percent of respondents to the 2005 NVUM project survey lived within a one-hour drive of Lake Davis.

Table 11.1-2. Campground use Data (Total Number of People) at Lake Davis Developed Campsites

Year	Grasshopper	Grizzly	Lightning Tree	Totals
1997	13,292	6,290	6,563	26,145
1998	12,077	4,221	3,404	19,702
1999	9,125	6,213	5,186	20,524
2000	22,809	8,042	8,003	38,854
2001	16,725	7,333	6,688	30,746
2002	13,226	6,033	5,409	24,668
2003	8,472	3,218	3,163	14,853
2004	11,785	5,264	4,876	21,925
2005	11,842	4,551	5,176	21,569
Average use Levels	13,261	5,685	5,385	24,332

Source: Judy Schaber, Beckwourth Ranger District, Plumas National Forest, Campground use levels as reported by concessionaire

Camping is permitted in the three developed campgrounds (Grasshopper, Grizzly, and Lightening Tree), all of which are managed and operated by Thousand Trails, a campground concessionaire. Grasshopper and Grizzly campgrounds have 125 single-family campsites with two universally accessible sites at each. Both provide grills, fire rings, flush toilets, and garbage service. Grasshopper campground has shower facilities available at the nearby

[1] Baas 2006. "Estimating recreation use at Lake Davis," technical memorandum.

Honker Boat Launch Ramp area. Lightning Tree Campground has 19 single-family campsites and 21 double campsites, and currently is a reduced-fee campground, since potable water is not provided to the site. However, the PNF plans to add toilets and potable water at the Lightning Tree Campground. There is also a dump station and an undeveloped campground to accommodate overflow use.

Table 11.1-2 reports campground occupancy data from 1998 through 2005. Data show steadily increasing visitation following the 1997 treatment until 2000. However, after 2000, camping use steadily declined from 2001 to 2003, and then increased again in 2004 and 2005. Possible reasons for decreases in camping use include low water levels and a decline in the quality of fishing for rainbow trout. (Schaber, personal communication, 2006).

There are four boat ramps that accommodate launching of large craft (larger than a boat that can be carried on the top of a car or truck). Old Camp Five, Lightning Tree, Mallard Cove, and Honker Cove boat ramps all have paved launching ramps, floating boat docks, and paved parking lots. Mallard Cove is also used as a car top boat launch area. Old Camp Five is located on the southwestern shore of the reservoir, while the other boat launch ramps are located on the southeastern side. Old Camp Five Boat Ramp has a universally accessible fishing levee 100 feet in length to accommodate shore fishing in deeper waters. During the last five years, the ramps at Mallard Cove and Lightning Tree experienced reduced use due to low water.

There are 11 areas around the reservoir that provide fishing access from the shore. There is a picnic area on the east side of the reservoir just north of Honker Cove Boat Ramp (Coot Bay Fishing Access and Picnic Area). Other day use areas on the eastern shore include Long Point, Fairview Point, Mosquito Slough, and Bluff Cove. The roads to Long Point, Mosquito Slough, and Fairview Point have been recently upgraded. In 2006, the PNF plans to improve the road to Bluff Cove Fishing Access.

On the west side of the reservoir, Eagle Point Fishing Access, Road 23N10Y, has a graveled surface. Other improvements include a vault toilet and barriers to keep the public from driving off road. Use capacity at this site is 42 Persons At One Time (PAOT). It is estimated (Schaber, personal communication, 2006) that recreational use at Lake Davis recreation facilities is as follows: 82 days in the high-use season with 40 percent occupancy; 9 holidays with 70 percent occupancy; 120 days of moderate -use in the spring and fall seasons with 30 percent occupancy; and 154 days in the off-season, with a low (5%) occupancy rate. The total annual use estimate for this site is 3,514 visitors.

Jenkins Point Fishing Access, Road 24N70Y, is a native surface road. The road is in poor condition but use at this site is high with 5 to 15 vehicles most weekends and 1 to 5 vehicles during the week. This area is closed during the winter due to snow. The total annual use estimate for this site is 572 visitors.

Cow Creek Fishing Access, Road 24N10B, has graveled surface to where the road splits, and then is native surface on both spurs beyond this. On Road 24N10B a vault toilet is at the end of the access. Road 24N10B1 is scheduled for reconstruction. Use capacity at this site is 100 PAOTs. It is estimated that use is as follows: 42 days are high season use with 60 percent occupancy; 9 holidays with 80 percent occupancy; 164 days moderate with 20 percent

occupancy and 150 days low/closed with zero percent occupancy. The total estimated annual use at this site is 6,520 visitors.

Freeman Fishing Access, Road 24N79Y, has a graveled surface. This site ends at Freeman Creek with a short hike to the reservoir. The PNF plans on constructing a trail to improve public access to the reservoir. This site is not used very much because of the distance from the reservoir. Big Grizzly Fishing Access, Road 24N84X, is native surface and provides parking and access to Big Grizzly Creek for fishing.

Old Camp Five boat launch has a partially-paved access road (23N13Y), paved parking with an accessible fishing levy, boat ramp, dock, bulletin board and toilet building. This site is very popular with the public, with fishing and boating being the main activities. Use capacity for this site is 88 PAOTs. It is estimated that use is as follows: 92 days are high use with 45 percent occupancy; 9 holidays with 75 percent occupancy 120 days moderate with 30 percent occupancy and 144 days low/closed with zero percent occupancy. This boat ramp is one of two that can operate when the reservoir has low water. The total annual estimated use for this site is 7,405 visitors. Use here is expected to increase after the unpaved portion of the access road (24N10) is chip-sealed.

Fishing at Lake Davis

The major attraction at Lake Davis is fishing for rainbow trout (RT). Fishing for RT is good from ice out (typically occurring in late March or early April) through mid-June. It slows down in July, August, and the first week or so of September, picking up again with a good fall fishery in the later part of September, through October and November (Paulsen, personal communication, 2006). There is a five trout daily limit all year. Because of spawning cycles, tributary streams are only open from July 1 through September 30. Nearly three miles of Big Grizzly Creek just below Lake Davis are open to fishing on a public access strip (Rischbieter, personal communication, 2006). A vigorous trout planting program was instituted the two years following the 1997 rotenone treatment. In 1998 and 1999, DFG planted over three million fingerlings, nearly 300,000 catchable and sub-catchables, 1,600 brood stock rainbow trout, 193 brood stock Eagle Lake rainbow trout and 160 brood stock brown trout (Ivan Paulsen, personal communication, January 2007). The DFG has stocked the reservoir since 2000 with two-pound RT. From 2000 through 2003, 50,000 catchable size RT were stocked annually in late May/early June. The stocking rate was reduced to 35,000 catchable size RT annually in 2004 and 2005. Warmwater fishing for the past six years has been very limited. Approximately five percent of the total fishing is for warmwater species (bass and bullheads). Using an average of five years of creel survey data obtained between 1986 and 2001, the average annual number of anglers was approximately 16,300 (Gallo and Tsournos 2006).

During the 40 years since impoundment, Lake Davis has experienced high levels of variation in fishing success for RT. Measured as an average of RT caught per hour among anglers surveyed in creel censuses, fishing success at Lake Davis has shown a steady decline since 1971, when there were 0.60 RT caught per hour. By 1980, the DFG decided to manage Lake Davis as a high cost, low yield trophy trout fishery (Powers 2003). From about 1978 through 1990, continued declines in fishing success were observed. From 1994 to 1997, another decline was observed from an average of 0.27 RT caught per hour to an average of 0.15.

Following treatment of the reservoir in 1997, angler success increased, peaking at 0.28 RT caught per hour, and then declining to 0.12 RT caught per hour in 2003 (Powers 2003). Concurrent with this most recent decline in angler success has been a decline (noted previously) in campground occupancy. Clearly the overall health of the fishery resource has an impact on angler success, and may affect overall recreation use at Lake Davis. A history of trout stocking is found in a report titled "History of the Lake Davis Fishery and Management" (Powers 2003).). As stated Section 1.2 of the EIR/EIS, the DFG proposes to reestablish the trout fishery at Lake Davis. This project component would have a compensatory effect with respect to significant impacts to recreation at Lake Davis.

11.1.1.2 Big Grizzly Creek

There also is recreation use along the lower section (below the dam) of Big Grizzly Creek. Big Grizzly Creek is a tributary to the Middle Fork Feather River. The reach below Grizzly Valley Dam to the Feather River is 6.25 miles. About 4.25 miles of this reach is used by anglers and for other types of recreation. In 1986, the Department of Water Resources (DWR) used Land and Water Conservation funds to purchase land along the creek to facilitate public access. The creek drops through steep walled canyons, and as a result some sections are inaccessible to public use. Grizzly Road roughly follows the creek and provides easy access to the mouth of the creek. About four miles upstream from the mouth of the creek, Burnham Ranch Road provides access to some of the more rugged sections along the creek. However, recent controversy about legal public access to Burnham Ranch Road has reduced recreation use on the creek during the past few years.

Walton's Grizzly Lodge

Walton's Grizzly Lodge is a family-owned business that offers a boys and girls summer camp.[2] Facilities include a main lodge, cabins, and 50 acres offering a variety of recreation activities such as archery, .22 rifle shooting, arts and crafts, and Grizzly Ice Pond. Activities that occur on the Grizzly Ice Pond include: rowing, sailing, windsurfing, and fishing.

The Ice Pond is fed by Big Grizzly Creek and is about 10 acres in size. It is kept stocked with RT for fishing and also is used for boating.

Grizzly Creek Ranch

Grizzly Creek Ranch is a place designed to help children with special needs, as well as children that are "at risk" due to their social and economic circumstances. The camp nurtures healthy development through a unique camping adventure.[3] The Ranch works with nonprofit organizations serving children with medical, physical, developmental, and behavioral challenges, as well as children who are considered at-risk for a variety of social and economic reasons.

[2] http://www.grizzlylodge.com/

[3] http://www.grizzlycreekranch.org/

Campers desiring to come to Grizzly Creek Ranch must be affiliated with a nonprofit organization that serves youth with special needs. The Ranch can accommodate up to 90 individuals per night. Recreation activities available at the Ranch include:

- swimming pool;
- challenge course;
- sports court;
- archery range;
- arts and crafts; and
- fishing.

Visitor Use

The most recent surveys conducted by the DWR (Nicholas and Rischbieter 2002) indicated that most recreation use is local. Seventy percent of the use was from Plumas County. Most survey respondents participated in general relaxing, followed closely by fishing and sightseeing. Table 11.1-3 shows how recreation participation has changed since 1986. Total annual fishing hours decreased substantially from 2,900 to 900 hours due to increasing access restricting to the DWR property along the creek. Swimming and wading remained relatively constant, and sightseeing and walking increased substantially.

Table 11-1.3. Estimated Annual Recreation Hours by Activity, Big Grizzly Creek

Activity	1986	1991	1994	1997	1998	2001
Fishing	2,900	800	2,200	1,300	800	900
Swim/wade	800	1,100	600	Negligible	100	800
Relaxing	200	200	1,000	500	500	1,100
Sightsee	30	200	2,300	500	300	900
Walking	20	400	1,000	1,000	900	500
Other[1]	450	1,100	1,900	1,900	1,500	700
Totals	**4,400**	**3,700**	**9,000**	**5,000**	**4,100**	**4,900**

Notes:

1. Other activities included picnicking, camping, bicycling, and OHV use, as well as various undefined activities.

Source: Nicholas and Rischbieter (2002)

11.1.1.3 Plumas National Forest NVUM Summary

A major source of information on Lake Davis visitor use and visitor behavior is the result of the NVUM project. Information on PNF visitor use levels and activity participation are collected periodically as part of the NVUM project and were collected in 2000 and 2005. The effort involves implementing a detailed visitor sampling regime, administering visitor questionnaires to forest visitors, and counting cars with electronic traffic counters. The U.S. Forest Service (USFS) Strategic and Annual Performance Plans require measuring trends in

user satisfaction and use levels to be able to improve public service, and the NVUM project was developed for this purpose.[4]

NVUM Year 2000 Survey Results

The PNF participated in the NVUM project throughout 2000, during which time 173 days of sampling were conducted. PNF recreation staff completed 100 percent of the sampling schedule. Recreation use at the 80 percent confidence level was 938,894 national forest visits ±14.9 percent. National Forest visits account for visits where multiple campsites were visited. Total site visits on the PNF were somewhat higher, at about 1.2 million per year. Visitor use is slightly higher on the Plumas than the neighboring Lassen National Forest for both site and national forest visits. The USFS defines a visit as "the entry of one person onto a national forest site or area to participate in recreation activities for an unspecified period of time" (PNF 2001).

Visitor surveys were conducted throughout the years 2000 and 2005 based on a random sampling scheme that included contacting visitors at day use areas, camping areas, wilderness areas, and general forest areas. Attendees to special use events or organizational camps (e.g., Boy Scouts of America or church camp) were not included in the survey sample. Data reported from the 2005 survey are preliminary.

Results from the 2000 survey indicated visitors to the PNF were predominantly male, caucasian, and between the ages of 30 and 50 years old. Eighteen percent of survey respondents indicated their primary activity in the PNF was viewing scenery, while 17 percent stated fishing as their primary activity. When asked what they would do if unable to visit the PNF, almost half (47 percent) of the survey respondents indicated they would visit somewhere else and engage in the same activity they had planned to do in the PNF.

Year 2005 Preliminary NVUM Project Survey Results

During the 2005 sampling season, visitor surveys and user counts were conducted at numerous locations in the Lake Davis recreation area. Visitor surveys were completed at the following locations:

- West Street;
- Honker Boat Ramp; and
- Coot Bay.

Eighty-four surveys were completed. Preliminary data analysis shows about one-third of survey respondents were from local communities (Portola, Graeagle, and Quincy), and about five out of ten (53 percent) came to the reservoir primarily to fish. Results of the survey also included traffic counts.

[4] NVUM project methods and data analysis are explained in detail in the research paper entitled: "Forest Service National Visitor Use Monitoring Process: Research Method Documentation;" English, Kocis, Zarnoch, and Arnold; SE Experiment Station; May 2001: http://www.fs.fed.us/recreation/programs/nvum/.

11.1.2 Alternative Recreation Substitute Sites near Lake Davis

During the time when rotenone application would occur, Lake Davis recreation area would be closed. Additionally, prior to treatment under most alternatives, Lake Davis would experience a substantial amount of drawdown. The result would be that visitors who come to Lake Davis to fish and engage in other activities would likely seek out substitute recreation sites. Understanding where visitors may go also is important, given that some of the potential substitute sites already receive high levels of use, and therefore may experience crowding impacts. Below is a discussion and description of possible substitute recreation sites for Lake Davis.

Several attributes indicative of physical capacity to support recreation use are reported for each possible substitute recreation site (Table 11.1-4). Surface area of the lake is reported, since it is a measure of boating capacity. As more boats are added to the lake, there is less surface area per boat, which can result in a loss of privacy and loss of a "safety buffer" around each boat. Depending on how much fishing pressure a particular lake receives and the level of stocking, there also can be a reduction in the quality of fishing opportunities, as more anglers fish on a certain lake. Miles of shoreline are reported, since shoreline areas provide for angler access, as well as access for other types of recreation (picnicking, swimming) that typically occur at lakes in northern California. Number of boat launch ramps is reported, since these facilities can be a limiting factor on recreation use and the quality of recreation experience, particularly during peak use recreation periods. Number of campsites are reported, because they are a measure of overnight capacity. Finally, driving distances from major points of origin for Lake Davis visitors (refer to 2005 NVUM survey results) are reported for Portola and the Reno area. Research (Loomis and Walsh 1997) shows that visitors will typically drive 100 to 150 miles to a recreation site, and that the time and distance to recreation sites are costs that are negatively related to total recreation visitation.

Table 11.1-4. Potential Substitute Locations for Lake Davis

Recreation Area	Lake Surface Area (acres)	Shoreline (miles)	Number of Boat Launch Ramps	Number of Campsites[1]	Approximate Driving Distance from Portola (miles)	Approximate Driving Distance from Reno Area (miles)
Lake Davis	4,030	32	4	160	7	50
Antelope Lake	930	15	1	198	45	90
Frenchman Lake	1,580	21	2	192	30	38
Bucks Lake	1,827	14	3	154 family campsites 6 group campsites	50	100
Lakes Basin	Numerous small lakes		2 at Gold Lake	101 family campsites plus primitive sites	25	75

Table 11.1-4. Potential Substitute Locations for Lake Davis

Recreation Area	Lake Surface Area (acres)	Shoreline (miles)	Number of Boat Launch Ramps	Number of Campsites[1]	Approximate Driving Distance from Portola (miles)	Approximate Driving Distance from Reno Area (miles)
Wild and Scenic section of the Middle Fork Feather River[2]					1-50	50-100

Notes:

1. Campsites are broken down to family campsites that accommodate about 4 people and group campsites that accommodate about 25 people.
2. There are numerous locations along the Middle Fork Feather River where residents from Portola or Reno could recreate. Therefore, a range of distances were used.

11.1.2.1 Antelope Lake

Antelope Lake is located on the PNF, approximately 45 miles from Portola, and 90 miles from Reno. Relative to other substitute sites, it is a longer, more difficult drive. As a result the area generally does not receive high recreation use (Stienstra 2004). The surface area of the lake is about 25 percent as large as that of Lake Davis. A private concessionaire manages family campgrounds around the lake. There are approximately 194 family campsites and four group campsites, and each campground has piped water. There are two campgrounds on the north side of the lake (Boulder Creek and Lone Rock) and one campground (Long Point) on the south side. Motorized boat use, including water skiing, is permitted. Swimming is also allowed. The lake has one boat launch ramp, a picnic and day use area, and two fishing access points. Antelope Lake is stocked annually with RT, and occasionally with brook trout. The lake also supports brown trout and kokanee salmon, as well as crappie, sunfish, and black bass.

11.1.2.2 Frenchman Lake

Frenchman Lake is located on the PNF between Portola and Reno. It is popular for fishing and boating, and has five campgrounds at or near the reservoir managed by Thousand Trails, a picnic area, and two boat launch ramps. There are 192 family campsites, 2 group campsites,, and six fishing access points along the shore, all of which have bathrooms. Motorized boating, waterskiing, and swimming are permitted. According to Stienstra (2004), the reservoir has a limited use period for water related recreation, during which time it can be very crowded. Frenchman Lake has about 40 percent of the surface area as compared with Lake Davis.

11.1.2.3 Bucks Lake

Bucks Lake is on the PNF, about 50 miles from Portola and 100 miles from Reno. Surface area of the lake is about 45 percent as large as Lake Davis. A private concessionaire manages five family campgrounds and one group campground. There are 63 family campsites, and three campsites for group camping. Additionally, Pacific, Gas and Electric (PG&E) manages

65 family campsites at Haskins campground, 19 campsites at Sundew, 7 campsites at Grizzly Forebay, 3 group campsites at Hutchkins Group Camp, and 5 Recreational Vehicle (RV) sites at Lower Bucks Lake. There are three boat launch ramps and one day use/picnic area. On the east side of the lake there are private resorts. The lake supports RT, brown trout, and kokanee salmon. There are good opportunities for bird watching. Motorized boat use and swimming are permitted. Fishing is considered outstanding, and the lake is considered one of the best for sailboarding. The lake receives high levels of use. In 2002, PG&E reported approximately 89,000 visitors, which excludes private recreation related use and winter related recreation use.

11.1.2.4 Lakes Basin

The Lakes Basin area has special geological features, creating outstanding scenery and more than 20 lakes. Many of the lakes are accessible via hiking trails. The area provides opportunities for: camping, fishing, boating, hiking, hunting, picnicking, and windsurfing. Roughly half of the Lakes Basin is on the PNF, half is on the Tahoe National Forest. On the PNF, there is one campground with 23 family campsites (Lakes Basin campground); another campground with no water and pit toilets that requires four wheel drive access; and primitive campsites at Gold, Goose, and Haven lakes. There are more than 30 miles of hiking trails throughout the Lakes Basin area. Gold Lake has a paved boat ramp on the southeast shore.

11.1.2.5 Middle Fork Feather River

The Middle Fork Feather River is designated a Wild and Scenic River. Stienstra (2004) refers to it as "one of the wildest streams in northern California." The river provides primitive opportunities for camping, rafting, kayaking, swimming, and fishing. About 32 miles of the reach is in a deep canyon, and is not easily accessible. There are no boat ramps, no developed campgrounds, or any developed day use sites along the river.

11.1.2.6 Conclusions Regarding Substitute Recreation Sites

Compared to other sites, Lake Davis is more family oriented with users seeking opportunities for peace and quiet. The Lakes Basin area offers outstanding primitive recreation opportunities, and a lot of hiking/backpacking opportunities. However, it does not have nearly the level of infrastructure development as Lake Davis and the other substitutes. Buck's Lake area has the greatest physical capacity in terms of lake surface area, boat launch ramps, and total overnight facilities (considering Forest Service and PG&E sites, plus private lodge accommodations). However, it is most likely the most crowded area, and has the greatest driving distance from Portola and the Reno area. Antelope Lake, which has a similar driving distance, offers a similar type of quiet experience and is not heavily used (Stienstra 2004). Frenchman Lake has a similar level of overnight capacity, is close to Portola and the Reno area, but already receives a high level of use. Frenchman Lake is the most likely area that visitors to Lake Davis would use during project implementation. This conclusion is based on interviews with local business owners in Portola and PNF staff. Among these substitutes, none offer the type of quiet, yet well-developed fishing opportunities found at Lake Davis.

11.1.3 Regulatory Environment

The Land and Resource Management Plan (LRMP) prescription for Recreation Resources is summarized below in Table 11.1-5. It outlines general management direction for all types of natural and cultural resources and land use activities, as well as standards and guidelines.

Table 11.1-5. Plumas National Forest LRMP Prescription for Recreation Resources

General Direction	Standards and Guidelines
Control dispersed recreation.	Maintain an ROS[1] class of "Roaded Natural."
Restrict vehicle use and prohibit off road use.	Restrict wheeled vehicles to designated routes.
Provide interpretive services to meet demand.	Where appropriate, create short loop trails in diverse forest environments. Include ties to developed sites, nearby roads, and existing trails, and extend beyond the recreation area if desirable. Expand the interpretive signing program.

1 ROS refers to "Recreation Opportunity Spectrum" a national recreation planning system used by the USDA Forest Service.

11.1.3.1 Off-highway Vehicle Route Designation

The PNF is participating in a nationwide effort to designate off-highway vehicle (OHV) routes. Routes are currently being mapped, trail conditions are being evaluated, and public input is being solicited to ensure all routes are identified. The result of the designation process is that OHV use will be prohibited except where specific trails have been identified.[5]

11.2 Environmental Impacts and Consequences

11.2.1 Evaluation Criteria and Environmental Concerns

Direct impacts on recreation were evaluated by estimating changes in day and overnight use at Lake Davis. Indirect impacts were analyzed by estimating how much recreation visitation would increase at Frenchman Lake based on professional judgment.

Significant impacts to recreation were evaluated using one of the two criteria found in the CEQA environmental checklist, listed below.

(1) Is there an increase in the use of existing neighborhood parks and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

(2) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Criterion (1) applies to this project, since recreation use, particularly angling, would be displaced to nearby reservoirs on the PNF. It is likely that use would be displaced to

[5] Additional details on the process can be found at: www.fs.fed.us/r5/plumas/projects/ohv/index.shtml.

Frenchman Lake based on interviews with local recreation planners and business owners. Since Frenchman Lake already receives high levels of use during the peak use summer season, it would be likely to experience crowding impacts and subsequent physical deterioration of facilities during project implementation. As a result, this analysis evaluates effects of displaced use on Frenchman Lake. Impacts to Antelope Lake are not evaluated, because the lake receives substantially lower levels of use than Frenchman Lake, and it is further away from Lake Davis.

There was not a specific environmental issue identified during public scoping about loss of recreation use. However, concern was raised about the loss of tourism and its effect on the local economy. As a result this analysis also uses the following evaluation criterion in the analysis of recreation impacts:

Loss of recreation access to and use of Lake Davis for more than one season.

11.2.2 Evaluation Methods and Assumptions

Evaluation assumptions for recreation impacts are listed below.

- Decreases in recreation use would occur during: reservoir drawdown or dewatering, application of rotenone, and refilling of the reservoir.
- Based on the historic refill and drawdown information, it is assumed for the Proposed Project, Alternatives A, B, and E that the reservoir would be below 45,000 acre-feet capacity on April 1, 2007.
- Fifty percent of the recreation use that would occur at Lake Davis under baseline conditions would be displaced to Frenchman Lake. Fifty percent is based on responses to the 2000 NVUM project survey about where visitors would go and what they would do if a particular recreation resource was unavailable. The survey showed 47 percent of visitors would go to another area to engage in the same activity.
- Department of Boating and Waterways (DBW) would extend the boat ramp at Honker Cover during drawdown.
- 65 percent of 2005 boating use would still occur during project implementation, except during actual rotenone application. Launches would be concentrated at Honker Cove after the boat ramp extension, because Camp 5 and Mallard would be unusable.
- On a monthly basis recreation use is evenly distributed from April to November. Normally recreation use peaks in summer. However at Lake Davis there are two peak periods; (1) early spring shortly after ice out, and (2) when the reservoir cools in fall.
- Most winter recreation use would be unaffected by the project. Winter recreation use such as snowmobiling and cross country skiing in the exposed lakebed could be restricted depending on the nature of the forest closure restrictions during the winter when reservoir levels are less than 45,000 acre-feet. Ice fishing could be affected depending on how long Lake Davis remains closed to fishing following treatment.

- Recreation use, for all activities combined would grow at the rate of the populations of Washoe and Plumas counties (1.0103 percent), from which most recreation use originates.
- Boat launch ramps are not useable when reservoir storage capacity is less than 45,000 acre-feet.
- Only 10 percent of swimming and wading use would occur when the reservoir storage capacity is less than 45,000 acre-feet. This is due to the limited access to the reservoir (only the southeast corner) that swimmers and waders would have.
- Recreation use was projected for a 20-year period, to be consistent with projections in Section 12, Economic Resources, of this document. Tables 11.2-1 (short-term visits) and 11.2-2 (long-term visits) are provided below:

Table 11.2-1. Estimated Visits to Lake Davis, 2007-2011

	Alternative						
	No Project	**Proposed Project**	**A**	**B**	**C**	**D**	**E**
Total visits under best case (quick refill)	428,787	364,149	364,149	348,913	364,228	370,800	349,667
Total visits under worst case (slow refill)	428,787	339,051	339,051	289,452	351,743	NA	289,149

NA = not applicable

Table 11.2-2. Estimated Total Visits to Lake Davis from 2007–2026

	Alternative						
	No Project	**Proposed Project**	**A**	**B**	**C**	**D**	**E**
Total visits under best case (quick refill)	1,641,239	1,906,213	1,906,213	1,894,128	1,906,479	1,916,195	1,894,128
Total visits under worst case (slow refill)	same as above	1,880,935	1,880,935	1,840,018	1,893,994	NA	1,828,571
Best refill date (45,000 acre-feet)	NA	June 2008 (48% of the time)	June 2008 (48% of the time)	September 2009 (50% of the time)	June 2008 (48% of the time)	NA	September 2009 (50% of the time)
Worst refill date (45,000 acre-feet)	NA	June 2009 (76% of the time)	June 2009 (76% of the time)	November 2010 (75% of the time)	May 2009 (84% of the time)	NA	June 2011 (81% of the time)

NA = Not Applicable

Table 11.2-2 displays the estimates of visitor use for a 20-year period for each alternative. The use estimates reflect assumptions made about the level of recreation use for fishing, boating, and swimming/wading that the reservoir would receive when it is below 45,000 acre-feet. Use estimates also reflect the assumption that other non-reservoir dependent

activities, such as picnicking or sightseeing would continue to grow at the same rate as population growth for Washoe and Plumas counties.

Over a 20-year period, total visitation at Lake Davis including short-term losses associated with the project alternatives, would be 1,641,239 visitors (Table 11.2-2).

11.2.3 No Project/No Action

Under the No Project alternative, treatment of the reservoir would not occur, and the DFG would continue its current reservoir and fishery management practices into the foreseeable future. Because pike pose a serious threat to aquatic resources in California, if they are not eradicated from Lake Davis, the DFG may decide to change the fisheries management program for the reservoir. Any significant changes to the fisheries management strategy at Lake Davis would be done in cooperation with the Lake Davis Steering Committee.

Recreation use in the Lake Davis Recreation Area is comprised of numerous activities including: fishing, boating, swimming and wading, duck hunting. picnicking, sightseeing, and winter-related activities. Under the No Project alternative, all these activities with the exception of fishing, would increase at the same rate as the populations of Washoe and Plumas counties. In 2011, (five years after project implementation), annual recreation use would be an estimated 81,352 visitors, with a cumulative total of 428,787 visitors (Table 11.2-1). Recreationists visiting the reservoir would have better access to some parts of the reservoir as a result of road improvements, such as chip sealing the unpaved portion of Forest Service Road 24N10. Visitors to Lake Davis would have the opportunity to learn more about the ecology of the area as a result of planned development of interpretive displays by the DFG and the PNF.

11.2.3.1 Impact on Recreational Use at Lake Davis

Fishing for trout would steadily decline over the next ten years. This is supported by recent creel surveys (Powers 2003) showing the trout catch rates per hour declined by about 50 percent from 1997 until 2003. In ten years it is assumed there would not be any more trout fishing use at Lake Davis, a significant unavoidable impact. This would be attributable to catch rates at the same level or lower than what was reported for 2003. Over the ten year period trout anglers that now fish at Lake Davis would gradually displace themselves to other trout fishing lakes in northern California.

11.2.3.2 Impact on Recreational Use at Frenchman Lake

Some Lake Davis anglers would be displaced to Frenchman Lake, creating more crowded conditions and affecting the condition of recreation facilities. This is a significant unavoidable impact.

11.2.3.3 Impact on Recreational Use of Big Grizzly Creek and Grizzly Ice Pond

Under the No Project alternative, flows in Big Grizzly Creek would remain similar to historic flows. The Ice Pond would continue to be used as a recreational resource for swimming and fishing for visitors at the Walton's Grizzly Lodge. Under existing conditions it is assumed

that the Ice Pond is used for swimming, fishing and kayaking from about June 1 through August 31 (approximately 90 days). There would be no impact from the No Action Alternative.

11.2.3.4 Impact on the Middle Fork Feather River

The entire Middle Fork Feather River is a designated Wild and Scenic River, beginning with the confluence of Big Grizzly Creek to Lake Oroville. It features the third highest waterfall in the United States, is remote, and has an outstanding fishery (www.nps.gov/rivers/wsr-feather.html). The outstandingly remarkable values (ORVs) for this river include: recreation, fish, and wildlife. Under the No Project alternative, the Middle Fork Feather River would continue to be managed to preserve the river's outstandingly remarkable values.

11.2.4 Proposed Project/Proposed Action–15,000 Acre-Feet (Plus Treatment)

11.2.4.1 Recreation at Lake Davis

There would be loss of both water-dependent and other forms of recreation during reservoir drawdown, rotenone application, and reservoir refill. Loss of boater visits in the short term at Lake Davis would be 17,350 under the quicker refill scenario and 27,350 under the slower refill scenario (Table 11.2-3). There would be a slight loss of other forms of recreation such as sightseeing or wildlife viewing during the same time periods. Total recreation visitation over the 5-year period is estimated at 364,149 visits under the best-refill scenario and 339,051 under the worst-case scenario. Total recreation visitation over the 20-year period is estimated at 1,906,213 visits under the best case reservoir refill scenario, about 265,000 more visits than the No Project alternative (Table 11.2-2), and 1,880,935 visits under the slower scenario, or about 240,000 more visits than the No Project alternative. During reservoir drawdown and refill, there would only be one area on the southeast corner of the reservoir where boats could be launched.

Table 11.2-3. Estimated Lost Boater Visits at Lake Davis, 2007–2011

Reservoir Refill Scenarios	Alternative					
	Proposed Project	A	B	C	D	E
Visits lost under best (quickest) refill	17,350 visits lost	17,350 visit lost	29,000 visits lost	17,350 visits lost	9,750 visits lost	29,000 visits lost
Best refill date (45,000 acre-feet)	June 2008 (48% of the time)	June 2008 (48% of the time)	September 2009 (50% of the time)	June 2008 (48% of the time)	NA	September 2009 (50% of the time)
Visits lost under worst (slowest) refill	27,350 visits lost	27,350 visits lost	31,350 visits lost	24,000 visits lost	9,750 visits lost	35,350 visits lost
Worst refill date (45,000 acre-feet)	June 2009 (76% of the time)	June 2009 (76% of the time)	November 2010 (75% of the time)	May 2009 (84% of the time)	NA	June 2011 (81% of the time)

NA = Not applicable

Impact R-1: The direct adverse impact due to loss of recreation use at Lake Davis, including loss for up to two seasons, is significant but mitigable.

Mitigation R-1a: The DFG shall partner with the PNF in promoting recreation at Lake Davis by contributing $30,000 in funding to conduct a feasibility analysis for design and construction of a trail on the east side of Lake Davis. There is a plan for the PNF (Schaber, personal communication, 2006) to seek funding from a Rails-to-Trails grant for a trail around Lake Davis. Support from the DFG could accelerate implementation of this trail project, and meet latent demand for hiking and walking. In addition, the DFG shall construct and install two or three interpretive panels highlighting the biological resources of the Lake Davis area and discussing the risks of non-native invasive species. The DFG shall also construct two interpretive panels for installation along the River Walk near the City of Portola. The DFG shall also provide interpretative staff for at least the duration of the two seasons in which impacts are expected to occur to support local educational programs on the biology of the reservoir and its vicinity.

Mitigation R-1b: The DFG shall plant trout in appropriate numbers beginning in the spring prior to treatment in suitable waters nearby Lake Davis for the benefit of local Lake Davis area recreation. Suitable waters are those that contain trout and trout habitat, that have previously been planted with trout and are not designated wild trout waters, and that do not contain any known special status or threatened or endangered species that could be adversely affected by planted trout.

DFG will also promote recreation at Lake Davis by the following:

(1) The rapid restocking of the reservoir with catchable trout, as described in the Fisheries Management Plan, coupled with wide media advertisement of the stocking to provide angling opportunities.

(2) Publishing and widely distributing brochures, newsletters, and press releases.

(3) Maintaining a website with information on the pike eradication project, fisheries management at the reservoir, and water quality monitoring results.

(4) Publishing newsletters and positive-image press releases in an appropriate and timely manner during and after the treatment, to inform residents of recovery progress and to encourage visitors to the Portola, Lake Davis and surrounding area.

(5) Using a wide variety of media for notifying the public of the recovery of Lake Davis – including radio announcements in Reno and Sacramento.

(6) Maintaining a public office in the City of Portola with DFG staff, as well as publishing the phone numbers and email addresses of key project personnel to allow a response to questions.

(7) Developing a public outreach program that includes presentations to educational institutions, conservation, environmental, civic, government and other interested and non-governmental organizations, and providing information through the media.

(8) Working closely with other responsible state, local and federal agencies to provide the most accurate and timely information to a wide public.

Significance After Mitigation: Less than significant.

11.2.4.2 Recreation at Frenchman Lake

Interviews with local recreation enthusiasts and businesses in the Portola area indicate that visitors who are displaced from Lake Davis are likely to go to Frenchman Lake. Given that Frenchman Lake is already crowded during the peak summer season, there would be adverse impacts in the form of crowding (greater congestion at boat launch ramps, greater competition for campsites, parking) and some deterioration of recreational facilities. Under the quickest scenario, impacts related to recreation displacement would occur during 2007 through June 2008. During the next two years while the fishery recovers, there would still be displacement, but at lower levels.

Impact R-2: Indirect adverse impact due to increased crowding and physical deterioration of recreation facilities at Frenchman Lake is significant but mitigable.

Mitigation R-2: A permanent toilet shall be installed at the overflow campground (near Big Cove campground) at Frenchman Lake. The DFG shall contribute a maximum of $15,000 for purchase and installation of this toilet. The DFG shall, in collaboration with local representatives, also prepare a brochure highlighting recreational opportunities in eastern Plumas County.

Significance After Mitigation: Less than significant.

11.2.4.3 Big Grizzly Creek and Grizzly Ice Pond

Table 11.2-4 shows the recent average flows in Big Grizzly Creek, and potential drawdown flows for the Proposed Project and alternatives. For each flow there is a corresponding, estimated recreation use season. For this analysis it is assumed that any daily flows over 30 cubic feet per second are unsafe for recreation. It is also assumed that drawdown flows are constant on a daily basis. See Section 3.1.2 for average flows by type of water year.

Table 11.2-4. Predicted Drawdown Flows[1] for Big Grizzly Creek

	Alternatives						
	No Project[2]	Proposed Project	A	B	C	D	E
April-June flow	10 cfs	134 cfs`	134 cfs	134 cfs	134 cfs	34 cfs	134 cfs
July-September flow	10 cfs	100 cfs	100 cfs	100 cfs	100 cfs	11 cfs	100 cfs

Notes:

1. Predicted flows based on assumption that the starting reservoir volume for Lake Davis would be 45,000 acre-feet, and that the year drawdown occurs is an average water year.
2. Year-round daily flows have been maintained at approximately 10 cfs except during high inflow periods such as winter 2006.

Impact R-3: Under the Proposed Project there could be no days when the Grizzly Ice Pond is useable for recreation. This would be a significant adverse impact, but can be mitigated to less than significant.

Mitigation R-3: Develop a reservoir operations plan (in coordination with DWR) that restricts releases from Grizzly Valley Dam from about June 1 through August, to allow for continued normal operation of Walton's Grizzly Lodge Camp.

Significance After Mitigation: Less than significant.

11.2.5 Alternative A – 15,000 Acre-Feet (Plus Treatment Including Powder)

Adverse impacts (Impacts R-1, R-2, and R-3) under Alternative A would be same as for the Proposed Project, since the reservoir drawdown and refill times would the same. During reservoir drawdown and refill, there would only be one area on the southeast corner of Lake Davis where boats could be launched. Loss of boater visits would be the same as for the Proposed Project. Impacts to recreation at Frenchman Lake and Big Grizzly Creek are the same as the Proposed Project.

Mitigation Measures R-1, R-2, and R-3 shall apply to Alternative A and would reduce all impacts to less than significant.

11.2.6 Alternative B – 5,000 Acre-Feet (Plus Treatment)

11.2.6.1 Recreation at Lake Davis

Under Alternative B there would be the second greatest amount of reservoir drawdown and refill required; only Alternative E requires greater drawdown and refill. There would be a loss of water-dependent recreation and loss of other types of recreation activities that occur at Lake Davis. Total estimated recreation visits over the 20-year planning period would be 1,889,873 visits under the quicker-refill scenario, and 1,840,018 visits under the slower refill scenario, about 249,000 more visits under the quicker and 199,000 more visits under the slower than the No Project alternative. Total estimated visits over the 5-year period is estimated at 348,667 visits under the quicker-refill scenario and 298,452 under the slower scenario. During reservoir drawdown and refill, there would only be one area on the southeast corner of the reservoir where boats could be launched. Short-term loss of boating use would range from 29,000 to 31,350 visits.

Impact R-4: Direct adverse impact due to loss of recreation use at Lake Davis, including loss for up to three seasons, is significant but mitigable.

Mitigation R-4: Mitigation R-1 shall be implemented to promote recreation use at Lake Davis. In addition, the DFG shall contribute to the PNF $10,000 for a feasibility study for design and construction of an amphitheater that would be used for interpretive programs.

Significance After Mitigation: Less than significant.

11.2.6.2 Recreation at Frenchman Lake

Compared to the Proposed Project and Alternative A, Alternative B would have longer term impacts on Frenchman Lake. There would be major displacement impacts at Frenchman Lake for two to three years as compared to one to two years under the Proposed Project and Alternative A.

Impact R-5: Indirect adverse impact due to increased crowding and physical deterioration of recreation facilities at Frenchman Lake is significant but mitigable.

Mitigation R-5: The DFG shall implement Mitigation R-2.

Significance After Mitigation: Less than significant.

11.2.6.3 Big Grizzly Creek and Grizzly Ice Pond

Under Alternative B, impacts to the recreation season would be the same as for Alternative A and the Proposed Project. The same mitigation measure (R-3) for the Proposed Project would apply to this alternative.

11.2.7 Alternative C – 35,000 Acre-Feet (Plus Treatment)

11.2.7.1 Recreation at Lake Davis

Alternative C was designed to minimize impacts to recreation use. During the 20-year time period under the quicker-refill scenario there would be 1,906,479 visits, about 265,000 more visits than the No Project alternative. Under the slower-refill scenario there would be 1,893,994 total estimated visits under Alternative C or 253,000 more visits than the No Project. Total estimated visits over the 5-year period would be 364,228 visits under the quicker-refill scenario and 351,743 visits under the slower-refill scenario. The loss of visits in the short term would still occur for one to two seasons. During reservoir drawdown and refill, there would be at least two boat launch ramps available. Short-term loss of boating use would range from 17,350 to 24,000 visits.

Impact R-6: Direct adverse impact due to loss of recreation use at Lake Davis, including loss for up to two seasons, is significant but mitigable.

Mitigation R-6: The DFG shall implement Mitigation R-1 to promote recreation use at Lake Davis, except if the duration of the impact is anticipated to be one season the contribution to PNF will be $15,000. However, if the reservoir remains at or above 45,000 acre-feet after ice-out, then no contribution to PNF will be required.

Significance After Mitigation: Less than significant.

11.2.7.2 Recreation at Frenchman Lake

During reservoir drawdown and refill at Lake Davis, displacement of recreation users to Frenchman Lake would occur for one to three seasons based on quickest and slowest refill scenarios for Lake Davis.

Impact R-7: Indirect adverse impact due to increased crowding and physical deterioration of recreation facilities at Frenchman Lake would be significant but mitigable.

Mitigation R-7: Mitigation R-2, except if the duration of the impact is anticipated to be one season, a temporary toilet will be provided.

Significance After Mitigation: Less than significant.

11.2.7.3 Big Grizzly Creek and Grizzly Ice Pond

Under Alternative C, impacts to the recreational use season of the Grizzly Ice Pond would be the same as for the Proposed Project Mitigation Measure R-3 would apply.

11.2.8 Alternative D – 48,000 Acre-Feet (Plus Treatment)

11.2.8.1 Recreation at Lake Davis

There would not be a loss of recreation during Spring and Summer, 2007. The reservoir capacity would remain at a level to allow access to at least two boat ramps. Recreation use and access to Lake Davis would not be confined to the southeast corner of the reservoir. Over the 20-year period total estimated recreation visits to Lake Davis under Alternative D would be 1,916,195 visits, about 275,000 more visits than the No Project alternative. Over the 5-year period estimated visits would be 370,800. During reservoir drawdown and refill, there would be at least two boat launch ramps available. Short-term boating loss would be 9,750 visits.

Impact R-8: Direct adverse impact due to loss of recreation use at Lake Davis, up to four months during and following rotenone application as part of project implementation, is less than significant.

Mitigation R-8: No mitigation is required. However, to minimize or further mitigate these impacts, DFG shall imiplement Mitigation R-1b to promote recreation use at Lake Davis.

11.2.8.2 Frenchman Lake

During Fall 2007 there would be impacts (displaced use) to Frenchman Lake. These impacts would not be significant, since they would occur after the peak use season at Frenchman Lake when use levels are much lower than in summer.

11.2.8.3 Big Grizzly Creek and Grizzly Ice Pond

Under Alternative D, predicted average daily flows would be 34 cfs in June and 11 cfs in July–September.

Impact R-9: The Grizzly Ice Pond would be useable for most of the summer season, and the impact is less than significant.

Mitigation R-9: Develop a reservoir operations plan (in coordination with DWR) that restricts releases from Grizzly Valley Dam from about June 1 through August, to allow for continued normal operation of Walton's Grizzly Lodge Camp.

Significance After Mitigation: Less than significant.

11.2.9 Alternative E – Dewater Reservoir and Tributaries (No Chemical Treatment)

Under Alternative E, the reservoir and three major tributaries would be dewatered, resulting in substantial adverse impacts to recreation. There could be loss of any dispersed recreation that occurs along Freeman, Big Grizzly, and Cow creeks. Under the best-case scenario of a quick reservoir refill of at least two seasons, there would be a loss of recreational access to and use of Lake Davis. Under this scenario, there would be an estimated 1,894,128 visits, about 253,000 more visits than the No Action alternative. During the 20-year period under the slower refill scenario, there would be 1,828,571 visits or 187,000 visits more than the No Action alternative. During the 5-year period estimated visits would be 348,913 visits under the quicker-refill scenario and 289,149 visits under the slower refill scenario. During reservoir drawdown and refill, there would be at least two boat launch ramps available. Short-term boating loss would range from 29,000 to 35,350 visits.

Impact R-10: Direct adverse impact due to loss of recreation use at Lake Davis for up to four seasons is significant and unavoidable.

Mitigation R-10: The DFG shall implement Mitigation R-1a and R1-b to promote recreation use at Lake Davis. However, this measure is not sufficient to reduce the impact to less than significant.

Significance After Mitigation: Significant and unavoidable.

11.2.9.1 Recreation at Frenchman Lake

Crowding impacts and additional physical deterioration would occur at Frenchman Lake for up to four years under the slowest Lake Davis refill scenario. Under Alternative E, impacts to facilities may be more noticeable to sites than under other alternatives, and impacts may spread to other sites within the Frenchman Lake area, such that the total "footprint" of physical impacts increases.

Impact R-11: Indirect adverse impact of visitor displacement to Frenchman Lake for up to four seasons would result in crowding impacts and physical deterioration of recreation facilities. The impact is significant but mitigable.

Mitigation R-11: The DFG shall implement Mitigation R-2 and shall contribute $20,000 to pave the overflow parking area at Lunker Point.

Significance After Mitigation: Less than significant.

11.2.9.2 Big Grizzly Creek and Grizzly Ice Pond

Similar to the Proposed Project and Alternatives A, B, and C, Impact R-3 applies. Under Alternative E, there would be significant adverse impacts to the recreational season due to

predicted flows. Mitigation measure R-3 would apply and reduce the impact to less than significant.

11.2.10 Cumulative Impacts to Recreation Resources

11.2.10.1 Analysis Area

Cumulative impacts are evaluated for the Lake Davis Recreation Area and the Frenchman Lake area. Frenchman Lake is included in the analysis area for cumulative impacts, because many of the visitors displaced from Lake Davis would go to Frenchman Lake. The timeframe for analysis is ten years, the time necessary to complete all the various recreation enhancements listed below. Therefore, ten years is the timeframe used for cumulative impacts analysis.

11.2.10.2 Projects Considered

There are several past, present, and reasonably foreseeable projects relevant to impacts on recreation use in the Lake Davis Recreation Area. The relevant projects include:

- DBW boat ramp extension, scheduled for 2007;
- Public fuelwood permits, Camp 5 area, 2001;
- Miscellaneous recreation facility improvements, from 1986–2006;
- Grizzly Ranch Development Project, in progress;
- Forest Service Road 24N10 chip seal project, unscheduled; and
- Rail to trail conversion project, unscheduled.

Baseline conditions for recreation facilities and use levels within the Lake Davis Recreation Area are good; there is sufficient facility capacity to meet current recreation demand. Estimated occupancy rates for recreation sites vary between 50 and 70 percent, with high occupancy levels (90 to 100 percent) only occurring on holiday weekends. The area does not appear to have a visitor capacity problem. Recreation facilities are in good condition, and regular improvements have been made to sites since 1986. There is a boat ramp extension project planned for 2007. The boat ramp extension would extend the season for boaters, particularly during low water years. There have been several recent projects to improve site access on the east side of Lake Davis, and Forest Service Road (Road 24N10) on the west side of Lake Davis is going to be chip sealed when funding becomes available. There are also plans to establish a trail on the east side of thereservoir, possibly with funding from a Rails-to-Trails grant. Overall, there are several projects that would increase visitor capacity at Lake Davis, and would promote activities such as hiking that currently don't occur, or occur at low levels of use.

In contrast, baseline recreation conditions at Frenchman Lake are not as favorable as at Lake Davis. Frenchman Lake area already receives heavy use (Schoenberg, personal communication, 2006). Recreation use is typically concentrated in a two-month period in the summer, creating crowded conditions.

Impacts from the Proposed Project past, present and reasonably foreseeable projects would be cumulatively considerable if:

- There was a permanent loss of recreation facilities or recreation use in the Lake Davis Recreation Area.
- There were long-term impacts such that physical deterioration occurs to recreation facilities at Frenchman Lake.

Under all of the alternatives, the combined effect of past, present, and reasonably foreseeable projects with the Proposed Project would not result in adverse impacts in the Lake Davis Recreation Area. There would not be cumulative impacts since most of the relevant projects described above would increase visitor capacity and improve accessibility to Lake Davis. The Grizzly Ranch Development Project may add a new group of day users to the Lake Davis Recreation Area, but there are plans to create opportunities (Rails to Trails project) that could accommodate new recreation demands from these new residents/homeowners. Improving the RT fishery at Lake Davis would benefit anglers. Anglers would experience improved catch rates similar or better than catch rates from 1998 to 2000. As catch rates increase, angler use would also increase. Research by Loomis (2005) showed that when catch rates double, angler use increases by 63 percent.

Table 11.2-5 shows the estimated number of recreationists displaced to Frenchman Lake for each alternative. Alternative D would be most favorable to recreation at Frenchman Lake with no displacement occurring, and Alternatives A and C, and the Proposed Project would have impacts for up to two seasons. In contrast, Alternatives B and E would result in the highest levels of displaced recreationists.

Table 11.2-5. Estimated Number of Visitors Displaced to Frenchman Lake during Project Implementation

Lake Davis Refill Scenarios	Alternatives						
	No Project	Proposed Project	A	B	C	D	E
Quickest Refill	N/A	37,500 visitors (displaced for 1 season)	37,500 visitors (displaced for 1 season)	112,500 visitors (displaced for 3 seasons)	37,500 visitors (displaced for 1 season)	Some displacement during Fall 2007	112,500 visitors (displaced for 3 seasons)
Slowest Refill	N/A	75,000 visitors (displaced for 2 seasons)	75,000 visitors (displaced for 2 seasons)	150,000 visitors (displaced for 4 seasons)	75,000 visitors (displaced for 2 seasons)	Some displacement during Fall 2007	185,000 visitors (displaced for 5 seasons)
Cumulatively Considerable?	N/A	No	No	No	No	No	No

11.2.10.3 Proposed Project

The Proposed Project would not result in cumulative impacts. Displacement of recreationists from Lake Davis to Frenchman Lake would be temporary, lasting up to two seasons.

11.2.10.4 Alternative A

Alternative A would not result in cumulative impacts. Displacement of recreationists from Lake Davis to Frenchman Lake would be temporary, lasting up to two seasons.

11.2.10.5 Alternative B

Alternative B would not result in cumulative impacts. Displacement of recreationists from Lake Davis to Frenchman Lake would be temporary, lasting up to four seasons.

11.2.10.6 Alternative C

Alternative B would not result in cumulative impacts. Displacement of recreationists from Lake Davis to Frenchman Lake would be temporary, lasting up to two seasons.

11.2.10.7 Alternative D

Alternative D would not result in cumulative impacts. Displacement of recreationists from Lake Davis to Frenchman Lake would be temporary, lasting up to two seasons.

11.2.10.8 Alternative E

Alternative D would not result in cumulative impacts. Displacement of recreationists from Lake Davis to Frenchman Lake would be temporary, lasting up to five seasons.

11.2.11 Environmental Impacts Summary

Table 11.2-6 summarizes impacts to recreation resources. When compared to existing conditions, the No Project alternative has the most substantial impact, with about 20 percent fewer visits than any of the project alternatives. The No Project alternative also has cumulative impacts, due to an assumption in this analysis of the loss of the trout fishing resource at Lake Davis after 10 years, resulting in an indirect, long-term impact to other nearby reservoirs, with most impacts occurring at Frenchman Lake. It also has a cumulative impact to fishing in Central Valley rivers to which pike could escape resulting in fishing restrictions to chinook salmon, the most frequently sought after species.

Alternatives B and E have the second largest impacts, and are considered adverse, and significant and unavoidable. Under the quickest scenario these alternatives would result in the same number of displaced visitors to Frenchman Lake. Under the slowest scenario Alternative E would displace about 20 percent more visitors to Frenchman Lake as compared to Alternative B. Among the other project alternatives, Alternative D, keeping the reservoir at 48,000 acre-feet, has the smallest impact to recreation resources. The Proposed Project and Alternative A have similar levels of impact, as do Alternatives C and D.

Table 11.2-6. Summary Comparison of Impacts of Alternatives

Affected Resource and Area of Potential Impact	Alternative						
	No Project Compared to Existing Conditions	Proposed Project	A	B	C	D	E
Recreation							
1. Loss of Recreation Use at Lake Davis	SU, A	SM, A	SM, A	SM, A	SM, A	LS, A	SU, A
2. Crowding at Frenchman Lake	SU, A	SM, A	SM, A	SM, A	SM, A	LS, A	SM, A
3. Constraints on Big Grizzly Creek Recreation	N	SM, A	SM, A	SM, A	SM, A	LS, A	SM, A

Key:

A = Adverse Impact (NEPA)
B = Beneficial Impact (NEPA)
LS = Less than Significant Impact (CEQA)
N = No Impact (CEQA, NEPA)
SM = Significant but Mitigable Impact (CEQA)
SU = Significant and Unavoidable Impact (CEQA)

11.2.12 Monitoring

Monitoring of recreation use will continue every four years under the PNF's NVUM project.